

## **I. International Plan of Action for the Reduction of Incidental Catch of Seabirds in Longline Fisheries**

FAO Fisheries Department

### **The International Plan of Action for Reducing Incidental Catch of Seabirds in Longline Fisheries**

#### **Introduction**

1. Seabirds are being incidentally caught in various commercial longline fisheries in the world, and concerns are arising about the impacts of this incidental catch. Incidental catch of seabirds may also have an adverse impact on fishing productivity and profitability. Governments, non-governmental organizations, and commercial fishery associations are petitioning for measures to reduce the mortality of seabirds in longline fisheries in which seabirds are incidentally taken.

2. Key longline fisheries in which incidental catch of seabirds are known to occur are: tuna, swordfish and billfish in some particular parts of oceans; Patagonian toothfish in the Southern Ocean, and halibut, black cod, Pacific cod, Greenland halibut, cod, haddock, tusk and ling in the northern oceans (Pacific and Atlantic). The species of seabirds most frequently taken are albatrosses and petrels in the Southern Ocean, northern fulmars in the North Atlantic and albatrosses, gulls and fulmars in the North Pacific fisheries.

3. Responding to the need to reduce the incidental catch of seabirds in commercial fisheries in the Southern Ocean, the Commission for the Conservation of Antarctic Marine Living Resources (CCAMLR) adopted mitigation measures in 1992 for its 23 member countries to reduce incidental catch of seabirds.

4. Under the auspices of the Commission for the Conservation of Southern Bluefin Tuna (CCSBT), Australia, Japan and New Zealand have studied and taken seabird mitigation measures in their southern bluefin tuna longline fishery since 1994, and in 1995 CCSBT adopted a recommendation relating to ecologically related species, including the incidental mortality of seabirds by longline fishing. The recommendation stipulates a policy on data and information collection, mitigation measures, as well as education and information dissemination. All member nations of CCSBT have made the use of bird scaring lines (tori poles) mandatory in their fisheries.

5. The United States of America also adopted, by regulation, measures for reducing incidental catch of seabirds for its groundfish longline fisheries in the Bering Sea/Aleutian Islands and Gulf of Alaska in 1997, and for its halibut fishery in 1998. The United States is currently developing measures to mitigate the incidental catch of seabirds in the Hawaiian pelagic longline fisheries. Several other countries with longline fisheries have likewise adopted similar mitigation measures.

#### **Origin**

6. Noting an increased awareness about the incidental catch of seabirds in longline fisheries and its potential negative impacts on seabird populations, a proposal was made at the Twenty-second Session of the Committee on Fisheries (COFI) in March 1997 that FAO organize an expert consultation, using extra-budgetary funds, to develop Guidelines leading to a Plan of Action to be submitted at the next Session of COFI aiming at a reduction in such incidental catch.

7. The International Plan of Action for reducing incidental catch of seabirds in longline fisheries (IPOA-SEABIRDS) has been developed through the meeting of a Technical Working

Group in Tokyo 25-27 March 1998 and the Consultation on the Management of Fishing Capacity, Shark Fisheries and Incidental Catch of Seabirds in Longline Fisheries held 26-30 October 1998 and its preparatory meeting held in Rome 22-24 July 1998.

#### Nature and Scope

8. IPOA-Seabirds is voluntary. It has been elaborated within the framework of the Code of Conduct for Responsible Fisheries as envisaged by Article 2 (d). The provisions of Article 3 of the Code of Conduct apply to the interpretation and application of this document and its relationship with other international instruments. All concerned States<sup>3</sup> are encouraged to implement it.

9. The IPOA-SEABIRDS applies to States in the waters of which longline fisheries are being conducted by their own or foreign vessels and to States that conduct longline fisheries on the high seas and in the exclusive economic zones (EEZ) of other States.

#### Objective

10. Taking into account in particular the objectives of articles 7.6.9 and 8.5 of the Code of Conduct, the objective of the IPOA-SEABIRDS is to reduce the incidental catch of seabirds in longline fisheries where this occurs.

#### Implementation

11. In implementing the IPOA-SEABIRDS States should carry out a set of activities. This should be done as appropriate in conjunction with relevant international organizations. The exact configuration of this set of activities will be based on an assessment of the incidental catch of seabirds in longline fisheries.

12. States with longline fisheries should conduct an assessment of these fisheries to determine if a problem exists with respect to incidental catch of seabirds. If a problem exists, States should adopt a National Plan of Action for reducing the incidental catch of seabirds in longline fisheries (NPOA-SEABIRDS). (See the attached "Technical note on developing a National Plan of Action for reducing the incidental catch of seabirds in longline fisheries".) When developing the NPOA-SEABIRDS experience acquired in regional management organizations should be taken into account as appropriate. FAO should provide a list of experts and a mechanism of technical assistance to countries for use in connection with development of NPOA-SEABIRDS.

13. States that determine that an NPOA-SEABIRDS is not necessary should review that decision on a regular basis, particularly taking into account changes in their fisheries, such as the expansion of existing fisheries and/or the development of new longline fisheries. If, based on a subsequent assessment, States determine that a problem exists, they should follow the procedures outlined in paragraph 12, and implement an NPOA-SEABIRDS within two years.

14. The assessment should be included as a part of each relevant State's NPOA-SEABIRDS.

15. Each State is responsible for the design, implementation and monitoring of its NPOA-SEABIRDS.

16. States recognize that each longline fishery is unique and the identification of appropriate mitigation measures can only be achieved through on-the-spot assessment of the concerned fisheries. Technical and operational mitigation measures are presently in use or under development in some longline fisheries where incidental catch of seabirds occurs. Measures developed by different States are listed in a Technical Note attached to this document. This list does not prejudice the right of States to decide to use any of these or other suitable measures that may be developed. A more comprehensive description and discussion of the mitigation

measures currently used or under development can be found in FAO Fisheries Circular No. 937.

17. States should start the implementation of the NPOA-SEABIRDS no later than the COFI Session in 2001.

18. In implementing their NPOA-SEABIRDS States should regularly, at least every four years, assess their implementation for the purpose of identifying cost-effective strategies for increasing the effectiveness of the NPOA-SEABIRDS.

19. States, within the framework of their respective competencies and consistent with international law, should strive to cooperate through regional and subregional fisheries organizations or arrangements, and other forms of cooperation, to reduce the incidental catch of seabirds in longline fisheries.

20. In implementing the IPOA-SEABIRDS States recognize that cooperation among States which have important longline fisheries is essential to reduce the incidental catch of seabirds given the global nature of the issue. States should strive to collaborate through FAO and through bilateral and multilateral arrangements in research, training and the production of information and promotional material.

21. States should report on the progress of the assessment, development and implementation of their NPOA-SEABIRDS as part of their biennial reporting to FAO on the Code of Conduct for Responsible Fisheries.

#### Role of FAO

22. FAO will, as and to the extent directed by its Conference, and as part of its Regular Programme activities support States in the implementation of the IPOA-SEABIRDS.

23. FAO will, as and to the extent directed by its Conference, support development and implementation of NPOA-SEABIRDS through specific, in-country technical assistance projects with Regular Programme funds and by use of extra-budgetary funds made available to the Organization for this purpose.

24. FAO will, through COFI, report biennially on the state of progress in the implementation of the IPOA-SEABIRDS.

#### Technical note on developing a National Plan of Action for reducing the incidental catch of seabirds in longline fisheries (NPOA-SEABIRDS)

This is not an exclusive or necessarily all-encompassing list but provides guidance for preparation of the NPOA-SEABIRDS.

The NPOA-SEABIRDS is a plan that a State designs, implements and monitors to reduce the incidental catch of seabirds in longline fisheries.

#### I. Assessment

1. The purpose of the assessment is to determine the extent and nature of a State's incidental catch of seabirds in longline fisheries where it occurs.

2. The assessment may include, but is not limited to, the collection and analysis of the

Criteria used to evaluate the need for an NPOA-SEABIRDS.  
Fishing fleet data (numbers of vessels by size).  
Fishing techniques data (demersal, pelagic, methods).  
Fishing areas.  
Fishing effort by longline fishery (seasons, species, catch, number of hooks/year/fishery).  
Status of seabird populations in the fishing areas, if known.  
Total annual catch of seabirds (numbers per 1000 hooks set/species/longline fishery).  
Existing mitigation measures in use and their effectiveness in reducing incidental catch of seabirds.  
Incidental catch of seabirds monitoring (observer program, etc.).  
Statement of conclusions and decision to develop and implement an NPOA-SEABIRDS.

## II. NPOA-SEABIRDS

The NPOA-SEABIRDS may contain the following elements:

### 1. Prescription of mitigation measures

The NPOA-SEABIRDS should prescribe appropriate mitigation methods. These should have a proven efficiency, and be cost-effective for the fishing industry. If effectiveness of mitigation measures can be improved by combining different mitigation measures or devices, it is likely that each State will find it advantageous to implement a number of different measures that reflect the need and particular circumstances of their specific longline fishery.

### 2. Research and development

The NPOA-SEABIRDS should contain plans for research and development, including those aiming: (i) to develop the most practical and effective seabird deterrent device; (ii) to improve other technologies and practices which reduce the incidental capture of seabirds; and (iii) undertake specific research to evaluate the effectiveness of mitigation measures used in the longline fisheries, where this problem occurs.

### 3. Education, training and publicity

The NPOA-SEABIRDS should prescribe means to raise awareness among fishers, fishing associations and other relevant groups about the need to reduce the incidental catch of seabirds in longline fisheries where this occurs; National and International Plans of Action and other information on the incidental catch of seabirds in longline fisheries; and to promote the implementation of the NPOA-SEABIRDS among national industry, research and its own administration.

Provide information about technical or financial assistance for reducing the incidental catch of seabirds.

Preferably design and implementation of outreach programmes for fishers, fisheries managers, gear technologists, maritime architects, shipbuilders, and conservationists and other interested members of the public should be described in the plan. These programmes should aim at improving the understanding of the problem resulting from incidental catch of seabirds and the use of mitigation measures. The outreach programme may include educational curricula, and guidelines disseminated through videos, handbooks, brochures and posters. The programme should focus on both the conservation aspects of this issue and on the economic benefits of expected increased fishing efficiency inter alia by eliminating bait loss to seabirds.

#### 4.Data Collection

Data collection programmes should collect reliable data to determine the incidental catch of seabirds in longline fisheries and the effectiveness of mitigation measures. Such programmes may make use of onboard observers.

#### Technical note on some optional technical and operational measures for reducing the incidental catch of seabirds

##### I. Introduction

To reduce the incidental catch of seabirds, it is essential to reduce the number of encounters between seabirds and baited hooks. It should be noted that, if used in combination, the options could improve mitigation effectiveness.

For each of the measures, the effectiveness and the cost involved for fishers are briefly presented. In this presentation, "effectiveness" is defined as to what extent the measures reduce incidental catch of seabirds; "cost" is defined as the initial cost or investment and any ongoing operational costs.

Other technical options are currently under development and fishers and researchers in the field may develop new mitigation measures, so the list of measures is likely to increase over time.

If effectiveness of mitigation measures can be improved by combining different mitigation measures or devices, each State may find it advantageous to implement different measures that are more suitable for their conditions and reflect the needs of their specific longline fisheries.

The list below should not be considered mandatory or exhaustive and FAO shall maintain a data base of measures that are in use or under development.

##### II. Technical measures

###### 1. Increase the sink rate of baits

###### a. Weighting the longline gear

Concept: Increase the sinking speed of baited hooks and reduce their exposure time to seabirds.

Effectiveness: Studies have shown that appropriate line-weighting can be highly effective in avoiding bait loss to birds.

Cost: The cost is the initial purchase of the weighting material (either heavier gear or weights) and any ongoing replacement of weights lost during fishing.

###### b. Thawing bait

Concept: Overcome buoyancy problems in bait by thawing and/or puncturing swim bladders.

Effectiveness: Rate of incidental catch of seabirds is reduced when thawed baits are used. It has also been shown that bait fish with deflated swim bladders sink more quickly than those with inflated swim bladders did.

Cost: Possible costs include bait thawing rack, or extra weight to compensate flotation resulting from the air bladder.

###### c. Line-setting machine

Concept: Increase line sinking rate by removing line tension during gear deployment.  
Effectiveness: Although no quantitative assessments have been done, this practice would result in the line sinking more rapidly thereby reducing availability of baited hooks to seabirds.  
Cost: For some fisheries, initial costs may include purchase of a line-setting device.

## 2. Below-the-water setting chute, capsule, or funnel

Concept: Prevent access by seabirds to baited hooks by setting line under water.  
Effectiveness: Underwater setting devices are still under development but could have high effectiveness.  
Cost: Initial cost would include purchase of the underwater setting device.

## 3. Bird-scaring line positioned over or in the area where baited hooks enter the water

Concept: Prevent seabirds access to baited hooks where they enter the water. The bird scaring line is designed to discourage birds from taking baited hooks by preventing their access to baited hooks. Design specifications may vary by vessel, fishing operation, and location and are critical to its effectiveness. Streamer lines and towing buoys are examples of these techniques.  
Effectiveness: A number of studies and anecdotal observations have demonstrated significant effectiveness of these devices when properly designed and used.  
Cost: Low initial cost for the purchase and installation of bird scaring line.

## 4. Bait casting machine

Concept: Places bait in area protected by a bird scaring line and outside the turbulence caused by the propeller and the ships wake.  
Effectiveness: Deployment of bait under the protection zone of the bird-scaring line reduces the availability of baited hooks to seabirds. The extent to which bait loss is reduced by the use of bait casting machines, used either without a bird-scaring line or in such a manner that baits are not protected by a bird-scaring line, is yet to be determined.  
Cost: High, initial costs may include purchase of a bait-casting device.

## 5. Bird scaring curtain

Concept: To deter seabirds from taking baited hooks during the haul by using a bird scaring curtain.  
Effectiveness: Anecdotal evidence indicates that the bird-scaring curtain can effectively discourage birds from seizing baits in the hauling area.  
Cost: Low, cost for materials.

## 6. Artificial baits or lures

Concept: Reduce palatability or availability of baits.  
Effectiveness: New baits are still under development and effectiveness has yet to be resolved.  
Cost: Currently unknown

## 7. Hook modification

Concept: Utilize hook types that reduce the probability of birds getting caught when they attack a baited hook.  
Effectiveness: Hook size might effect the species composition of incidentally caught seabirds. The effect of modification of hooks is, however, poorly understood.  
Cost: Unknown.

## 8. Acoustic deterrent

Concept: Deterring birds from the longline using acoustic signals, such as high frequency, high volume, distress call, etc.

Effectiveness: Low probability of being effective as background noises are loud and habituation to noises is common among seabirds.

Cost: Unknown

#### 9. Water cannon

Concept: Concealing baited hooks by using high pressure water.

Effectiveness: There is no definite conclusion about the effectiveness of this method.

Cost: Unknown.

#### 10. Magnetic deterrent

Concept: Perturbing the magnetic receptors of the birds by creating magnetic fields.

Effectiveness: No indication of effect in practical experiments.

Cost: Unknown.

### III. Operational Measures

#### 1. Reduce visibility of bait (Night setting)

Concept: Set during hours of darkness and reduce illumination of baited hooks in the water.

Effectiveness: This method is generally recognized as being highly effective. However, effectiveness can vary between fishing grounds and also seasonally according to the seabird species. Effectiveness of this measure may be reduced around the full moon.

Cost: A restriction of line setting to the hours of darkness may affect fishing capacity, especially for smaller longliners. Small costs may be incurred to make vessel lighting appropriate. Such restriction can also entail investing in costly technology for maximizing fishing efficiency in a shorter period of time.

#### 2. Reduce the attractiveness of the vessels to seabirds

Concept: Reducing the attractiveness of vessels to seabirds will reduce the potential for seabirds being incidentally caught. Materials (e.g. fish discards, garbage) discharged from vessels should be at a time or in a way that makes them least available to birds or least likely to cause them harm. This includes avoidance of the dumping of discarded fish, offal, fish heads, etc. with embedded hooks. If dumping offal is unavoidable, it should be done on the opposite side of the vessel to where lines are being set or in such a manner that birds are not attracted to the vessel (e.g. at night).

Effectiveness: The issue of offal discharge is a complex one, and there have been conflicting results regarding effects of various procedures in the studies done to date.

Cost: Low; in some situations costs may be associated with providing for offal containment or reconfiguration of offal discharge systems on the vessel.

#### 3. Area and seasonal closures

Concept: Reduce incidental catch of seabirds when concentrations of breeding or foraging seabirds can be avoided.

Effectiveness: Area and seasonal closures could be effective (such as in high density foraging areas or during the period of chick care when parental duties limit the distances adults can fly from breeding sites) although displacement of fishing fleet to other seabird areas needs to be considered.

Cost: Unknown, but a restriction on fishing by area or season may effect fishing capacity.

#### 4. Give preferential licensing to vessels that use mitigation measures that do not

require compliance monitoring

Concept: Incentive provided for effective use of mitigation measures that do not require compliance monitoring.

Effectiveness: May be highly effective in stimulating the use of mitigation measures and development of fishing systems that reduce incidental catch of seabirds.

Cost: Unknown.

#### 5. Release live birds

Concept: If despite the precautions, seabirds are incidentally caught, every reasonable effort should be made to ensure that birds brought onboard alive are released alive and that when possible hooks should be removed without jeopardizing the life of the birds.

Effectiveness: Depends on the number of birds brought onboard alive and this is considered small by comparison to the numbers killed in line setting.

Cost: Unknown.

1

See: "Report of the Technical Working Group on Reduction of Incidental Catch of Seabirds in Longline Fisheries. Tokyo, Japan, 25-27 March 1998. FAO Fisheries Report No. 585.

2

See report: "Preparatory Meeting for the Consultation on the Management of Fishing Capacity, Shark Fisheries and Incidental Catch of Seabirds in Longline Fisheries". Rome, 22-24 July, 1998. FAO Fisheries Report No. 584.

3

In this document the term "State" includes Members and non-members of FAO and applies mutatis mutandis also to "fishing entities" other than States.